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First record of shrimp scad *Alepes djedaba* (Carangidae) from the Sea of Marmara, Turkey

by

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Résumé. – Premier signalement du sélar subari *Alepes djedaba* (Carangidae) en mer de Marmara, Turquie.

La présence du sélar subari, *Alepes djedaba* (Forsskål, 1775), dans la partie nord-ouest de la mer de Marmara, est signalée sur la base de la capture d'une femelle de 116 mm de longueur totale. Le spécimen a été capturé au large de Uçmakdere avec une ligne équipée d'émerillons pater-noster et de 20 hameçons triples de différentes tailles. Ceci est considéré comme le premier signalement fiable de *A. djedaba* dans la mer de Marmara.

Keywords. – Carangidae - *Alepes djedaba* - Sea of Marmara - First record.

Early ichthyofaunal studies in Turkish waters including the Sea of Marmara were undertaken by Deveciyan (1915) and Erazi (1941). Since then, the fish fauna has been studied extensively (Artüz, 2004; Oral, 2010).

Shrimp scad, *Alepes djedaba* (Forsskål, 1775) is a pelagic member of the family Carangidae that is widespread in tropical and warm temperate areas between 40°N and 47°S, of the Indo-Pacific: Red Sea and East Africa, and immigrant to the eastern Mediterranean (Levant coast) through the Suez Canal (Golani, 1998). *Alepes djedaba* was first reported from the Mediterranean as *Caranx calla* by Steinitz (1927) and subsequently under the names *Caranx djedaba*, *Atule djedaba* and *Alepes (Atule) djedaba* (Golani, 2005). *Alepes djedaba* has been reported from the Mediterranean coast of Turkey and its length-weight relationships are described (Raje, 1993). However, there is no information about the presence of

Alepes djedaba in the Sea of Marmara. We report here on the occurrence of *Alepes djedaba* off Uçmakdere in the North-West part of the Sea of Marmara, Turkey (Fig. 1).

MATERIAL STUDIED

One immature female specimen of shrimp scad, *Alepes djedaba* was caught on August 28th 2010, next to the northwest shore of the Sea of Marmara along the coordinates (40°49.150'N; 027°26.333'E) at 15 m depth (with a total depth of 40 m), off Uçmakdere.

The material was caught with a paternoster rig endowed with 20 treble hooks with different sizes used for identification of visible echosounder stock contents. The specimen (Fig. 2) was anesthetized, identified, and measured with an ichthyometer and a digital calliper. It was later fixed in 5% formalin buffered with sea water, then preserved and deposited in the fish collection of the SEI Foundation, MAREM (Marmara Environmental Monitoring) Project with the reference LES-011-212.

RESULTS

Description of the Sea of Marmara specimen (Fig. 2)

Body with dorsal and ventral profiles almost evenly convex, compressed. Pale greenish blue above, silvery white below; mid side of body with yellow stripe, which widens posteriorly, caudal fin yellow; operculum with black spot on posterodorsal margin. The snout is pointed and the eye diameter is nearly equal to the preorbital length, with an adipose eyelid well developed on the posterior half of the eye. Upper jaw anteriorly with two irregular rows of short conical teeth, posteriorly inner surface of jaw paved with blunt teeth. Gill rakers (including rudiments) on first gill arch: 12 on upper part, 28 on lower. Cleithrum margin smooth, without papillae. Meristic formula: D₁ VIII; D₂ I-25; A II+I-20; C 9+8+9; P I-19; V I-5. First dorsal triangular and high, longest spine longer than the length of the soft dorsal fin lobe. Second dorsal fin long and elevated anteriorly. The pectoral fin is falcate. Anal fin has two detached spines followed by one spine connected to the soft rays. Caudal fin deeply forked.

It has a complete and prominent lateral line having 35 anterior scales in the curved portion and 48 scutes on posterior region. Total

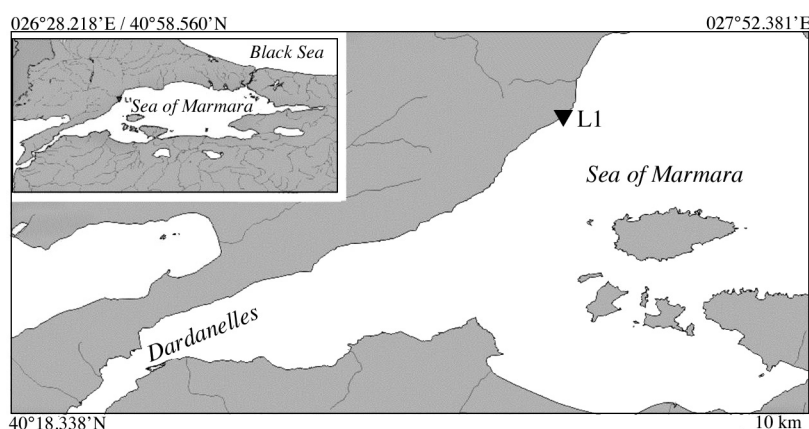


Figure 1. - Location of capture of *Alepes djedaba* in the Sea of Marmara, Turkey.

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Figure 2. - *Alepes djedaba*, female, 116 mm TL, caught from the Sea of Marmara (Photo by M.L. Artüz).

weight: 71 g; standard length: 88.4 mm. Max body height: 33.2 mm (37.5% SL); Min body height: 4.3 mm (4.9% SL); head length: 22.3 mm (25.2% SL); eye diameter: 6.2 mm (27.8% HL); preorbital space: 6 mm (26.9% HL); snout length: 6.6 mm (29.5% HL); interorbital space: 7 mm (31.4% HL); predorsal fin length: 29.5 mm (33.4% SL); prepelvic fin length: 28.1 mm (31.8% SL); preanal fin length: 45.7 mm (51.7% SL); pectoral fin length: 30.1 mm (34% SL); pelvic fin length: 11.1 mm (12.5% SL); dorsal fin length: 53.4 mm (60.4% SL); anal fin length: 37.6 (42.5% SL).

DISCUSSION

The invasion of Red Sea organisms through the Suez Canal, known as “Lessepsian migration” might have profoundly modified the ecosystem of the Eastern Mediterranean.

Most species present in the Sea of Marmara are eurythermic, so that they are not much affected by changes in water temperature above 6°C. Their primary important limiting factor for distribution seems to be salinity, but the vertical distribution of this variable allows even the stenohaline forms to live in the same water column separated by the halocline at different depths where they can find suitable water. The same rule applies for the stenothermic fish species. The thermal structure below the thermocline serves as a shelter for the warm water species all year round with an average temperature of 14.2°C (Artüz *et al.*, 2007).

It is premature to assess whether *Alepes djedaba* is represented by only a few visitors exploring the new area or whether it has a well-established population hitherto undetected, probably due to limited ichthyological expeditions and fishery surveys in this area.

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